

# Probability & Mean

**Probability**  $P(x) = \frac{\text{\# of favourable outcomes}}{\text{\# of possible outcomes}}$

---

**Mean**  $m = \frac{\text{sum of terms}}{\text{number of terms}}$

# Algebra

**Slope**  $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\Delta y}{\Delta x}$

---

**Slope-Intercept Form**  $y = mx + c$

---

**Midpoint**  $(x_m, y_m) = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

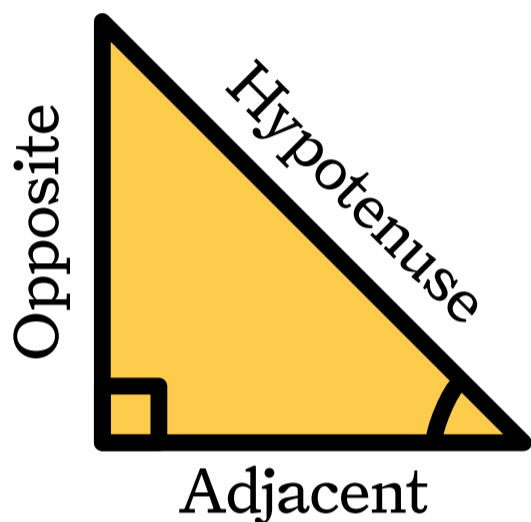
---

**Quadratic Formula**  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

# Geometry

## Pythagorean Theorem

$$a^2 + b^2 = c^2$$



## Sine

$$\sin \theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

## Cosine

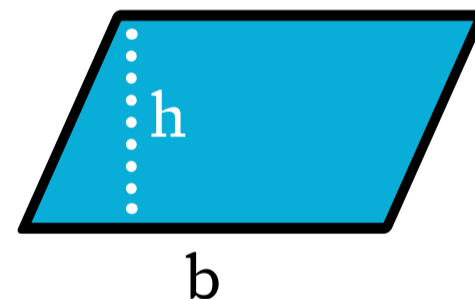
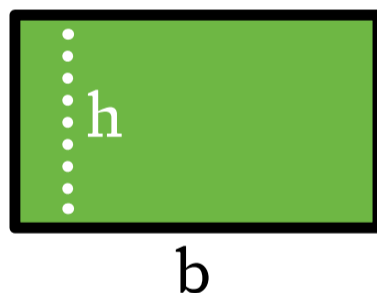
$$\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

## Tangent

$$\tan \theta = \frac{\text{Opposite}}{\text{Adjacent}}$$

## Area of a Rectangle and Parallelogram

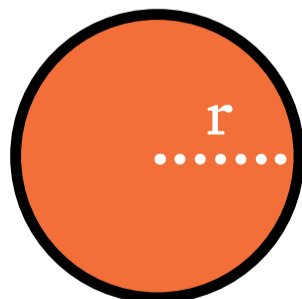
$$A = bh$$



## Circumference and Area of Circles

$$C = 2\pi r$$

$$A = \pi r^2$$



## Area of a Triangle

$$A = \frac{1}{2}bh$$

